

Pinus ponderosa – (*Pinus edulis*–*Juniperus osteosperma*) / *Quercus gambelii* Woodland

MAP CLASS	Ponderosa Pine – Pinyon Pine – Juniper / Gambel Oak Woodland
COMMON NAME	Ponderosa Pine (Pinyon Pine–Utah Juniper) Gambel Oak Woodland
PHYSIOGNOMIC CLASS	Woodland (II.)
PHYSIOGNOMIC SUBCLASS	Evergreen woodland (II.A.)
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved evergreen woodland (II.A.4.)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (II.A.4.N.)
FORMATION	Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a.)
ALLIANCE	<i>Pinus ponderosa</i> Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL This association is a variation of the association *Pinus ponderosa* / *Quercus gambelii* Woodland. It is not designated as an association, but a variation of the association *Pinus ponderosa* / *Quercus gambelii* Woodland that has a strong confidence classification level.

USFS WETLAND SYSTEM Upland

RANGE

Walnut Canyon National Monument

Ponderosa Pine (Pinyon Pine - Utah Juniper) / Gambel Oak Woodland occurs in small patches in the non-canyon environments of Walnut Canyon and its environs as well as in the more mesic side canyons of Walnut Canyon. It was located from our relevé data to occur only on the south side of Walnut Canyon, specifically on and west of Anderson Mesa.

ENVIRONMENTAL DESCRIPTION

Walnut Canyon National Monument

The elevation of this association ranged from 2050-2150m (average 2110m). Topography varied from flat areas to hill slopes, ranging from 5-30% slope (average 20%).

MOST ABUNDANT SPECIES

Walnut Canyon National Monument

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i> , <i>Pinus edulis</i> , <i>Juniperus osteosperma</i>
Tall Shrub	<i>Quercus gambelii</i>

ASSOCIATED SPECIES

Walnut Canyon National Monument

Amelanchier utahensis, *Bouteloua gracilis*, *Poa fendleriana* (all occur with >5% cover)

VEGETATION DESCRIPTION

Walnut Canyon National Monument

Ponderosa Pine (Pinyon Pine – Utah Juniper) / Gambel Oak Woodland total cover ranged from 65-76% (average 72%) with 52-65% absolute cover (average 58%) in the tree layer, 2-15% (average 9%) in the shrub layer, and 14-24% (average 17%) in the herbaceous layer. The total species diversity ranged from 20-30 (average 25) within the 4 relevés sampled.

The tree layer was co-dominated by *Pinus ponderosa* with 4-11% absolute cover (average 7%), *Pinus edulis* with 4-34% cover (average 19%), and *Juniperus osteosperma* with 7-18% cover (average 13%). The DBH for *Pinus ponderosa* was 5-26 in (12-67 cm) (average 11 in/28 cm), *Pinus edulis* was 4-11 in (11-29 cm) (average 6 in/16 cm), and *Juniperus osteosperma* was 5-40 in (12-102 cm) (average 11 in/28 cm). The shrub layer was dominated by *Quercus gambelii* with 9-27% cover (average 22%). The herbaceous layer was not dominated by a single herbaceous species.

CONSERVATION RANK G5

USGS-NPS Vegetation Mapping Program
Walnut Canyon National Monument

DATABASE CODE C EGL000870

MAP CLASSES

The association Ponderosa Pine (Pinyon Pine – Utah Juniper) / Gambel Oak Woodland is represented by the map class Ponderosa Pine – Pinyon Pine – Juniper / Gambel Oak Woodland (map code 13).

Ponderosa Pine – Pinyon Pine – Juniper / Gambel Oak Woodland was mapped as occurring mainly south of the canyon, only in small patches in the environs. It was mostly in the non-canyon environments and in side canyon drainages. The total area of Ponderosa Pine – Pinyon Pine – Juniper / Gambel Oak Woodland in the park environs is 366 ac (148 ha) within 28 polygons.

COMMENTS

Walnut Canyon National Monument

This association has a co-dominance of Ponderosa Pine, Pinyon Pine, and Utah Juniper. Previous classifications (Ponderosa Pine Series, Pinyon Pine Series, Juniper Woodlands) have defined vegetation with this co-dominance as occurring in Ponderosa Pine, Pinyon Pine, or Utah Juniper dominated types (Stuever and Hayden 1997b). However, our observations suggest that a new association should be defined based on the co-dominance of all three conifers occurring over a large area within Walnut Canyon NM and in its environs. Currently, this type is treated in the NVCS as the *Pinus edulis* phase of the *Pinus Ponderosa* / *Quercus gambelii* Woodland (CEGL000870) (see Stuever and Hayden 1997b). Hanks et al. 1983 treats this type as a *Quercus gambelii* phase of the *Pinus ponderosa* / *Festuca arizonica* habitat type and a *Pinus ponderosa* / *Bouteloua gracilis* habitat type.

REFERENCES

Stuever and Hayden 1997b